

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 March 2004 (11.03.2004)

PCT

(10) International Publication Number  
**WO 2004/020475 A1**

(51) International Patent Classification<sup>7</sup>: **C08C 19/44**,  
C08F 8/34

Circle, Akron, OH 44320 (US). **HERGENROTHER, William** [US/US]; 195 Dorchester Road, Akron, OH 44313 (US). **LAWSON, David** [US/US]; 11621 Garden Lane NW, Uniontown, OH 44685 (US).

(21) International Application Number:  
PCT/US2003/027081

(22) International Filing Date: 29 August 2003 (29.08.2003)

(74) Agents: **VASUTA, John** et al.; Bridgestone Americas Holding, Inc., 1200 Firestone Parkway, Akron, OH 44317 (US).

(25) Filing Language: English

(81) Designated States (*national*): JP, US.

(26) Publication Language: English

(30) Priority Data:  
60/453,693 30 August 2002 (30.08.2002) US

(84) Designated States (*regional*): European patent (DE, FR, IT).

(71) Applicant (*for all designated States except US*): **BRIDGE-STONE CORPORATION** [JP/JP]; 10-1, Kyobashi 1-Chome, Chuo-Ku, Tokyo 104 (JP).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **HOGAN, Terrence** [US/US]; 557 Westminster Circle, Akron, OH 44319 (US). **RADEMACHER, Christine** [US/US]; 714 Hearthstone

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: FUNCTIONALIZED POLYMERS AND IMPROVED VULCANIZATES THEREFROM

(57) Abstract: A functionalized polymer defined by the formula  $\pi$ -R<sub>1</sub>- $\alpha$ , where  $\pi$  is a polymer chain, R<sub>1</sub> is a bond or a divalent organic group, and  $\alpha$  is a sulfur-containing heterocycle.

WO 2004/020475 A1